

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
1 September 2005 (01.09.2005)

PCT

(10) International Publication Number  
WO 2005/080537 A1

(51) International Patent Classification<sup>7</sup>: C11C 3/00,  
3/04, C07C 67/03

(21) International Application Number: PCT/EE2005/000003

(22) International Filing Date: 25 February 2005 (25.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: P200400060 25 February 2004 (25.02.2004) EE

(71) Applicant (for all designated States except US): NBD TECHNOLOGIES OÜ [EE/EE]; Majaka 26, EE11412 Tallinn (EE).

(72) Inventor; and

(75) Inventor/Applicant (for US only): KAEVAND, Toomas [EE/EE]; Öle 35, EE10319 Tallinn (EE).

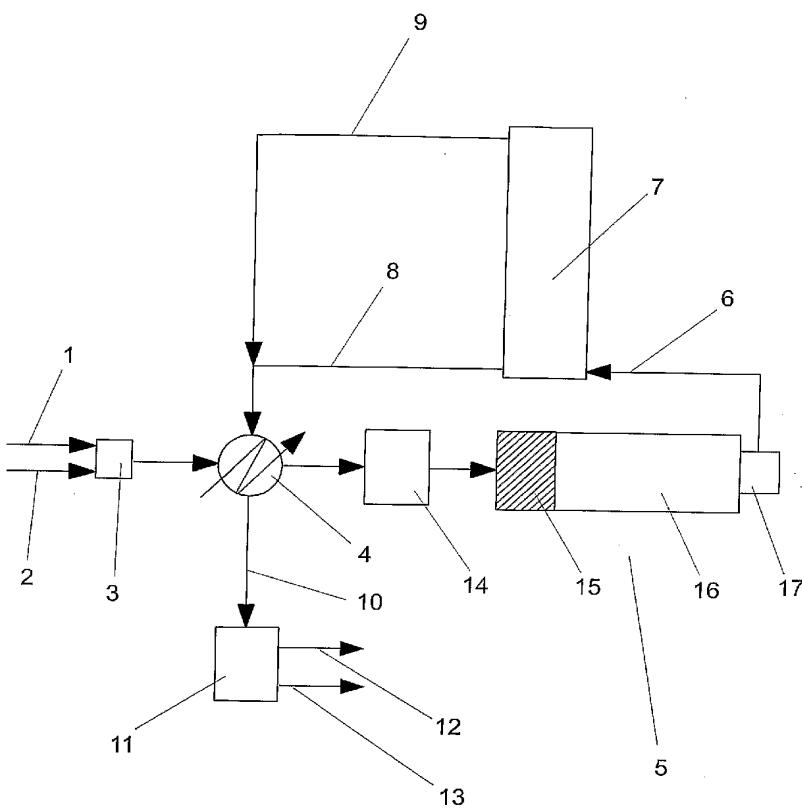
(74) Agent: SARAP, Margus; Patent Agency Käosaar & CO, Tähe 94, EE50107 Tartu (EE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,

[Continued on next page]

(54) Title: METHOD AND DEVICE FOR CONTINUOUS PROCESS TRANSESTERIFICATION OF CARBOXYLIC ACID ESTERS IN A SUPERCRITICAL MONOVALENT ALCOHOL



(57) Abstract: A method for continuous process of transesterification of carboxylic acid esters in supercritical monovalent alcohol, wherein, accordingly formula R-OH, R is discretionary aliphatic hydrocarbon radical having 1 - 10 carbon atoms and in which as initial substance are used synthetic carboxylic acid esters or their compositions, for example fats and oils, which are esters of different fatty acids and glycerol. A device for continuous process of transesterification of carboxylic acid esters in supercritical monovalent alcohol, which comprises alcohol inlet (1), carboxylic acid ester inlet (2), reactant dosing unit (3), heat-exchanger (4), transesterification unit (5), tube of hot reaction yield to expansion tank (6), expansion tank (7), tube of hot reaction yield to heat-exchanger (8), reverse current tube of excess of alcohol (9), tube of cooled reaction yield to separator (10), separator (11), outlets of new ester and new alcohol (12 and 13).



SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*